Claims

1) A device for the production of nanotubes, fullerene and their derivatives comprising: an inductor 8 supplied from a high frequency generator 9, a graphite element 5 suitable to be invested from the electromagnetic field generated from the inductor 8, where, inside a vacuum-tight chamber 1 with a inlet port 2 and a evacuation port 3, in presence of a inert gas flow along the axis of the graphite element 5 and the inductor 8 between the inlet port 2 and evacuation port 3, the continuous heating for induced eddy currents and the consequent vaporization of the graphite element 5 is realized and, at the same time, a plasma 10 that stays inside the inductor 8 around the head of the graphite element 5 and afterward the same.

2) The device for the production of nanotubes, fullerene and their derivatives according to the claim 1, characterized in that afterward the first inductor 8 at least a second inductor 12 is present, this inductor 12 is supplied from a high frequency generator 13, where, the electromagnetic field generated from this inductor 12 is able to produce another plasma 14 with at least the inert gas and graphite vapours that made the previous plasma 10.

3) The device for the production of nanotubes, fullerene and their derivatives according to the claim 1 or 2, characterized in that for the collection of nanotubes, fullerene and their derivatives a

device is installed at the exit of evacuation port 3.

4) The device for the production of nanotubes, fullerene and their derivatives according to the claim 1, characterized in that the graphite element 5 is formed from more rods 5,7, alternatively shaped in a such way to stack up and to support themselves.

5) The device for the production of nanotubes, fullerene and their derivatives according to the claim 1, characterized in that an injection device 15 that injects powders and/or liquid or gas inside the inductor 8 is used.

6) A method for the production of nanotubes, fullerene and their derivatives characterized in that, in an environment where a inert gas flow is present at a atmospheric pressure or at a lower pressure respect to atmospheric pressure, a high frequency electromagnetic field is generated, then, a graphite element 5 is subjected at one end from this electromagnetic field and it is heated until to vaporization and simultaneously the formation and the persistence of a plasma 10 happen around and afterward the vaporization zone of the same graphite element 5.

7) The method for the production of nanotubes, fullerene and their derivatives according to claim 6 characterized in that afterward the plasma 10, at least another plasma 14 is present, this plasma 14 is generated from at least a second high frequency electromagnetic field.

8) The method for the production of nanotubes, fullerene and their

derivatives according to claim 6 or 7 characterized in that, to be a continuous method with the pick up of nanotubes, fullerene and their derivatives by means of a device placed at the exit of evacuation port 3.

9) The device or method for the production of nanotubes, fullerene and their derivatives according to claim 1 or 6, characterized in that the graphite element 5 is made up of graphite with a purity not lower than 90%.

10) The device or method for the production of nanotubes, fullerene and their derivatives according to claim 1 or 6 characterized in that the graphite element 5 is doped or added with other substances solid and/or liquid.

11) The device or method for the production of nanotubes, fullerene and their derivatives according to the claim 10, characterized in that the graphite element 5 includes catalyst metal.

12) The device or method for the production of nanotubes, fullerene and their derivatives according to the claim 11, characterized in that the graphite element 5 includes catalyst metal is composed of one or two or more of metal selected from a group including Co, Ni, Sc, V, Cr, Fe, Cu, Y, Zr, Nb, Mo, Pd, Ta, W, Au, Th, U, La, Ce, Pr, Nd, Gd, Tb, Dy, Ho, Er, Tm, Lu.